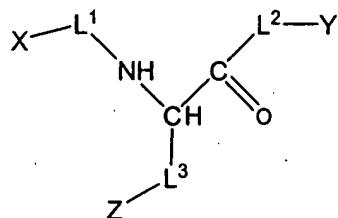


This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1 1. (Previously presented) A heterofunctional crosslinking reagent having
2 the formula:



3 wherein

4 L¹ and L² are each independently selected from the group consisting of a bond, a
5 substituted or unsubstituted (C₂-C₂₄) alkylene group, a substituted or
6 unsubstituted (C₂-C₂₄) heteroalkylene group, a polyethyleneglycol group, a
7 polyalcohol group, a polyamine group, a polyester group and a
8 polyphosphodiester group;

9 -L³-Z is an optionally protected amino acid side chain having a pendant reactive
10 group, said reactive group selected from the group consisting of lysine,
11 cysteine, serine, aspartic acid, glutamic acid, and threonine;

12 X is a non-covalent protein tag binder that specifically binds to a protein tag portion
13 of a protein; and

14 Y is a photoactivatable covalent crosslinking group adapted to covalently link the
15 heterofunctional crosslinking reagent at or adjacent to said protein tag, said
16 said photoactivatable covalent crosslinking group is a member selected from
17 the group consisting of aryl ketones, azides, diazo compounds, diazirenes, and
18 ketenes.

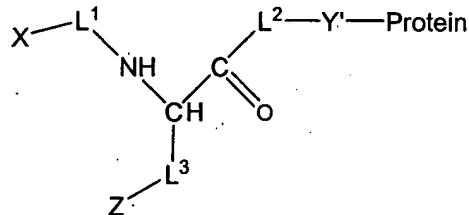
1 2.-4. (Canceled)

5. (Original) A heterofunctional crosslinking reagent of claim 1, wherein
L¹ is a cleavable linking group.

1 6.-8. (Canceled)

1. 9. (Original) A heterofunctional crosslinking reagent of claim 1, wherein
2. X is selected from the group consisting of metal chelating groups, peptides, an
3. organoarsenical moiety and small molecule ligands or inhibitors.

1 10.-25. (Cancelled)



3 wherein

4 L¹ and L² are each independently selected from the group consisting of a bond, a
5 substituted or unsubstituted (C₂-C₂₄) alkylene group, a substituted or
6 unsubstituted (C₂-C₂₄) heteroalkylene group, a polyethyleneglycol group, a
7 polyalcohol group, a polyamine group, a polyester group and a
8 polypyrophosphodiester group;

9 -L³-Z is an optionally protected amino acid side chain having a pendant reactive
10 group, said reactive group selected from the group consisting of lysine,
11 cysteine, serine, aspartic acid, glutamic acid, and threonine;

12 X is a non-covalent protein tag binder that specifically binds to a protein tag portion
13 of [[a]] said protein; and

14 Y' is the residue of a photoactivatable covalent crosslinking group after formation of a
15 covalent linkage to said protein, said photoactivatable covalent crosslinking

16 group covalently attached at or adjacent to said protein tag portion of said
17 protein, said photoactivatable covalent crosslinking group is a member
18 selected from the group consisting of aryl ketones, azides, diazo compounds,
19 diazirenes, and ketenes.

1 27.-77. (Canceled)

1 78. (Previously presented) A heterofunctional crosslinking reagent of
2 claim 1, wherein X is an antibody or antibody fragment.